



For Revised Syllabus Session 2024-25

EXEMPLAR SOLUTIONS CHEMISTRY

Class
12



Powered by



Chapter 5- Coordination Compounds

I. Multiple Choice Questions (Type-I)

1. Which of the following complexes formed by Cu²⁺ ions is most stable?

(i) Cu ²⁺ + 4NH ₃ ⇌ [Cu(NH ₃) ₄] ²⁺	logK	11.6
(ii) Cu ²⁺ + 4CN ⁻ ⇌ [Cu(CN) ₄] ²⁻ ,	logK	27.3
(iii) Cu ²⁺ + 2en ⇌ [Cu(en) ₂] ²⁺ ,	logK	15.4
(iv) Cu ²⁺ + 4H ₂ O ⇌ [Cu(H ₂ O) ₄] ²⁺ ,	logK	8.9

Solution:

Option (ii) is the answer.

2. The colour of the coordination compounds depends on the crystal field splitting. What will be the correct order of absorption of wavelength of light in the visible region, for the complexes,



- (i) $[\text{Co}(\text{CN})_6]^{3-} \rightarrow [\text{Co}(\text{NH}_3)_6]^{3+} > [\text{Co}(\text{H}_2\text{O})_6]^{3+}$
- (ii) $[\text{Co}(\text{NH}_3)_6]^{3+} > [\text{Co}(\text{H}_2\text{O})_6]^{3+} > [\text{Co}(\text{CN})_6]^{3-}$
- (iii) $[\text{Co}(\text{H}_2\text{O})_6]^{3+} > [\text{Co}(\text{NH}_3)_6]^{3+} > [\text{Co}(\text{CN})_6]^{3-}$
- (iv) $[\text{Co}(\text{CN})_6]^{3-} \rightarrow [\text{Co}(\text{NH}_3)_6]^{3+} > [\text{Co}(\text{H}_2\text{O})_6]^{3+}$

Solution:

Option (iii) is the answer.

3. When 0.1 mol CoCl₃(NH₃)₅ is treated with an excess of AgNO₃, 0.2 mol of AgCl are obtained. The conductivity of the solution will correspond to

- (i) 1:3 electrolyte
- (ii) 1:2 electrolyte
- (iii) 1:1 electrolyte
- (iv) 3:1 electrolyte

Solution:

Option (ii) is the answer.

4. When 1 mol CrCl₃.6H₂O is treated with an excess of AgNO₃, 3 mol of AgCl are obtained. The formula of the complex is :

- (i) [CrCl₃(H₂O)₃].3H₂O
- (ii) [CrCl₂(H₂O)₄]Cl.2H₂O
- (iii) [CrCl(H₂O)₅]Cl₂.H₂O
- (iv) [Cr(H₂O)₆]Cl₃

Solution:

Option (iv) is the answer.

5. The correct IUPAC name of [Pt(NH₃)₂Cl₂] is

- (i) Diamminedichloridoplatinum (II)
- (ii) Diamminedichloridoplatinum (IV)

- (iii) Diamminedichloridoplatinum (0)
(iv) Dichlorodiammineplatinum (IV)

Solution:

Option (i) is the answer.

6. The stabilisation of coordination compounds due to chelation is called the chelate effect. Which of the following is the most stable complex species?

- (i) $[\text{Fe}(\text{CO})_5]$
(ii) $[\text{Fe}(\text{CN})_6]^{3-}$
(iii) $[\text{Fe}(\text{C}_2\text{O}_4)_3]^{3-}$
(iv) $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$

Solution:

Option (iii) is the answer.

7. Indicate the complex ion which shows geometrical isomerism.

- (i) $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}_2]^{2+}$
(ii) $[\text{Pt}(\text{NH}_3)_3\text{Cl}]$
(iii) $[\text{Co}(\text{NH}_3)_6]^{3+}$
(iv) $[\text{Co}(\text{CN})_5(\text{NC})]^{3-}$

Solution:

Option (i) is the answer.

8. The CFSE for octahedral $[\text{CoCl}_6]^{4-}$ is 18,000 cm⁻¹. The CFSE for tetrahedral $[\text{CoCl}_4]^{2-}$ will be

- (i) 18,000 cm⁻¹
(ii) 16,000 cm⁻¹
(iii) 8,000 cm⁻¹
(iv) 20,000 cm⁻¹

Solution:

Option (iii) is the answer.

9. Due to the presence of ambidentate ligands coordination compounds show isomerism.

Palladium complexes of the type $[\text{Pd}(\text{C}_6\text{H}_5)_2(\text{SCN})_2]$ and $[\text{Pd}(\text{C}_6\text{H}_5)_2(\text{NCS})_2]$ are

- (i) linkage isomers
(ii) coordination isomers
(iii) ionisation isomers
(iv) geometrical isomers

Solution:

Option (i) is the answer.

10. The compounds $[\text{Co}(\text{SO}_4)(\text{NH}_3)_5]\text{Br}$ and $[\text{Co}(\text{SO}_4)(\text{NH}_3)_5]\text{Cl}$ represent

- (i) linkage isomerism
(ii) ionisation isomerism
(iii) coordination isomerism
(iv) no isomerism

Solution:

Option (iv) is the answer.

11. A chelating agent has two or more than two donor atoms to bind to a single metal ion. Which of the following is not a chelating agent?

- (i) thiosulphate
- (ii) oxalate
- (iii) glycinato
- (iv) ethane-1,2-diamine

Solution:

Option (i) is the answer.

12. Which of the following species is not expected to be a ligand?

- (i) NO
- (ii) NH₄⁺
- (iii) NH₂CH₂CH₂NH₂
- (iv) CO

Solution:

Option (ii) is the answer.

13. What kind of isomerism exists between [Cr(H₂O)₆]Cl₃ (violet) and [Cr(H₂O)₅Cl]Cl₂.H₂O (greyish-green)?

- (i) linkage isomerism
- (ii) solvate isomerism
- (iii) ionisation isomerism
- (iv) coordination isomerism

Solution:

Option (ii) is the answer.

14. IUPAC name of [Pt(NH₃)₂Cl(NO₂)] is :

- A. Platinum diaminechloronitrite
- B. Chloronitrito-N-ammineplatinum (II)
- C. Diamminechloridonitrito-N-platinum (II)
- D. Diamminechloronitrito-N-platinate (II)

Solution:

Option (iii) is the answer.

II. Multiple Choice Questions (Type-II)

Note: In the following questions two or more options may be correct.

15. The atomic number of Mn, Fe and Co are 25, 26 and 27 respectively. Which of the following inner orbital octahedral complexes are diamagnetic?

- (i) [Co(NH₃)₆]³⁺
- (ii) [Mn(CN)₆]³⁻
- (iii) [Fe(CN)₆]⁴⁻
- (iv) [Fe(CN)₆]³⁻

Solution:

Option (i) and (iii) are the answers.

16. The atomic number of Mn, Fe, Co and Ni are 25, 26 27 and 28 respectively. Which of the following outer orbital octahedral complexes have the same number of unpaired electrons?

- (i) $[\text{MnCl}_6]^{3-}$
- (ii) $[\text{FeF}_6]^{3-}$
- (iii) $[\text{CoF}_6]^{3-}$
- (iv) $[\text{Ni}(\text{NH}_3)_6]^{2+}$

Solution:

Option (i) and (iii) is the answer.

17. Which of the following options are correct for $[\text{Fe}(\text{CN})_6]^{3-}$ complex?

- (i) d₂s₂p₃ hybridisation
- (ii) s₂p₃d₂ hybridisation
- (iii) paramagnetic
- (iv) diamagnetic

Solution;

Option (i) and (iii) are the answers.

18. An aqueous pink solution of cobalt(II) chloride changes to deep blue on the addition of an excess of HCl. This is because_____.

- (i) $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ is transformed into $[\text{CoCl}_6]^{4-}$
- (ii) $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ is transformed into $[\text{CoCl}_4]^{2-}$
- (iii) tetrahedral complexes have smaller crystal field splitting than octahedral complexes.
- (iv) tetrahedral complexes have larger crystal field splitting than octahedral complex.

Solution:

Option (ii) and (iii) are the answers.

19. Which of the following complexes is homoleptic?

- (i) $[\text{Co}(\text{NH}_3)_6]^{3+}$
- (ii) $[\text{Co}(\text{NH}_3)_4 \text{Cl}_2]^{+}$
- (iii) $[\text{Ni}(\text{CN})_4]^{2-}$
- (iv) $[\text{Ni}(\text{NH}_3)_4\text{Cl}_2]$

Solution:

Option (ii) and (iv) are the answers.

20. Which of the following complexes are heteroleptic?

- (i) $[\text{Cr}(\text{NH}_3)_6]^{3+}$
- (ii) $[\text{Fe}(\text{NH}_3)_4 \text{Cl}_2]^{+}$
- (iii) $[\text{Mn}(\text{CN})_6]^{4-}$
- (iv) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]$

Solution:

Option (ii) and (iv) are the answers.

21. Identify the optically active compounds from the following :

- (i) $[\text{Co}(\text{en})_3]^{3+}$
- (ii) trans- $[\text{Co}(\text{en})_2 \text{Cl}_2]^{+}$
- (iii) cis- $[\text{Co}(\text{en})_2 \text{Cl}_2]^{+}$
- (iv) $[\text{Cr}(\text{NH}_3)_5\text{Cl}]$

Solution:

Option (i) and (iii) are the answers.

22. Identify the correct statements for the behaviour of ethane-1, 2-diamine as a ligand.

- (i) It is a neutral ligand.
- (ii) It is a didentate ligand.
- (iii) It is a chelating ligand.
- (iv) It is a unidentate ligand.

Solution:

Option (i), (ii) and (iii) are the answers.

23. Which of the following complexes show linkage isomerism?

- (i) $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)]^{2+}$
- (ii) $[\text{Co}(\text{H}_2\text{O})_5\text{CO}]^{3+}$
- (iii) $[\text{Cr}(\text{NH}_3)_5\text{SCN}]^{2+}$
- (iv) $[\text{Fe}(\text{en})_2\text{Cl}_2]^{+}$

Solution:

Option (i) and (iii) are the answers.

III. Short Answer Type

24. Arrange the following complexes in the increasing order of conductivity of their solution:



Solution:

The increasing order of conductivity is as follows:



25. A coordination compound $\text{CrCl}_3 \cdot 4\text{H}_2\text{O}$ precipitates silver chloride when treated with silver nitrate. The molar conductance of its solution corresponds to a total of two ions. Write the structural formula of the compound and name it.

Solution:

If it forms silver chloride then there is one free chlorine atom outside the coordination sphere. The structural formula has to be $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}_2]\text{Cl}$. The name of this complex is tetraaquadichlorido chromium(III) chloride.

26. A complex of the type $[\text{M}(\text{AA})_2\text{X}_2]^{n+}$ is known to be optically active. What does this indicate about the structure of the complex? Give one example of such complex.

Solution:

The structure has to be cis-octahedral.

Example for such a complex is $[\text{Co}(\text{en})_2\text{Cl}_2]^{+}$ which is optically active.

27. The magnetic moment of $[\text{MnCl}_4]^{2-}$ is 5.92 BM. Explain giving a reason.

Solution:

A magnetic moment of 5.92 BM means there are 5 unpaired electrons because

$$\text{Magnetic Moment} = \sqrt{n(n+2)}$$

The geometry tetrahedral with 5 unpaired electrons giving a magnetic moment of 5.92 BM as the four ligands are attached to Mn^{2+} .

28. Based on crystal field theory explain why Co(III) forms a paramagnetic octahedral complex with weak field ligands whereas it forms a diamagnetic octahedral complex with strong field ligands.

Solution:

The electronic configuration will be $t_{2g}^4 e_g^2$. It has 4 unpaired electron and paramagnetic. With weak ligand $\Delta_0 < p$. The configuration with strong field ligand will be $t_{2g}^6 e_g^0$, the $\Delta_0 > p$ and there won't be any unpaired electron therefore diamagnetic.

29. Why are low spin tetrahedral complexes not formed?

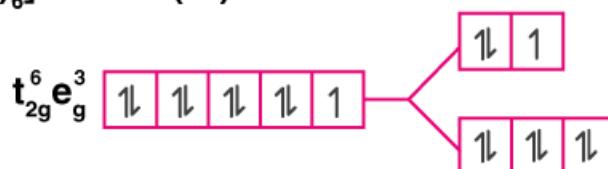
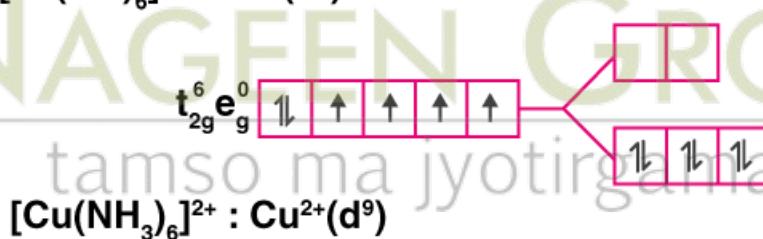
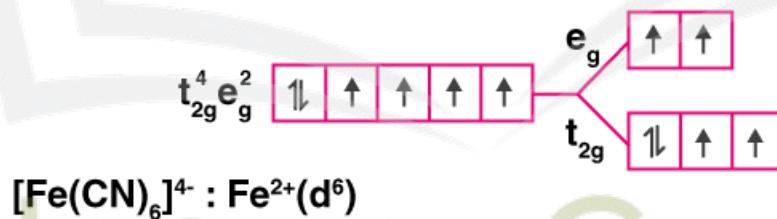
Solution:

For tetrahedral complexes, the crystal field splitting energy is too low. It is lower than pairing energy so, the pairing of electrons is not favoured and therefore the complexes cannot form low spin complexes.

30. Give the electronic configuration of the following complexes based on Crystal Field Splitting theory.

$[\text{CoF}_6]^{3-}$, $[\text{Fe(CN)}_6]^{4-}$ and $[\text{Cu(NH}_3)_6]^{2+}$.

Solution:



31. Explain why $[\text{Fe(H}_2\text{O)}_6]^{3+}$ has a magnetic moment value of 5.92 BM whereas

$[\text{Fe}(\text{CN})_6]^{3-}$ has a value of only 1.74 BM.

Solution:

For $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$, H_2O is a weak field ligand won't cause pairing of electrons. So, the number of unpaired electrons will be 5.

$[\text{Fe}(\text{CN})_6]^{3-}$, Fe^{3+} has six unpaired electrons. CN^- is a strong field ligand which will cause pairing of all the electrons. So, the electrons will start pairing leaving behind one unpaired electron.

32. Arrange following complex ions in increasing order of crystal field splitting energy (DO) :

$[\text{Cr}(\text{Cl})_6]^{3-}$, $[\text{Cr}(\text{CN})_6]^{3-}$, $[\text{Cr}(\text{NH}_3)_6]^{3+}$.

Solution:

The increasing order of crystal field energy is

$[\text{Cr}(\text{Cl})_6]^{3-} < [\text{Cr}(\text{NH}_3)_6]^{3+} < [\text{Cr}(\text{CN})_6]^{3-}$

This is also the order of field strength of the ligands according to the spectrochemical series.

33. Why do compounds having similar geometry have a different magnetic moment?

Solution:

They differ in the number of paired and unpaired electrons. A strong field ligand will cause pairing of electrons while a weak field ligand will not cause pairing. Pairing or not pairing will change the number of unpaired electrons, which affects the magnetic moment.

34. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is blue while CuSO_4 is colourless. Why?

Solution:

In $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, there are water molecules that act as ligands. The electrons will excite to higher d orbital and show colour. Whereas, in CuSO_4 , there are no water molecules to act as ligands, so no crystal field splitting happens.

35. Name the type of isomerism when ambidentate ligands are attached to a central metal ion.

Give two examples of ambidentate ligands.

Solution:

Ambidendate ligands are those having different two binding sites.

Examples: Isothiocyanato Thiocyanato and Nitrite-N Nitrito-O

The type of isomerism when ambidentate ligands are attached to a central metal ion is called linkage isomerism because they only differ in the atom that is linked to the central metal ion.

V. Matching Type

Note: In the following questions match the items given in Columns I and II.

36. Match the complex ions given in Column I with the colours given in Column II and assign the correct code :

Column I (Complex ion)	Column II (Colour)
A. $[\text{Co}(\text{NH}_3)_6]^{3+}$	1. Violet
B. $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$	2. Green
C. $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$	3. Pale blue
D. $(\text{Ni}(\text{H}_2\text{O})_4(\text{en}))^{2+} (\text{aq})$	4. Yellowish orange
	5. Blue

Code :

- (i) A (1) B (2) C (4) D (5)
- (ii) A (4) B (3) C (2) D (1)
- (iii) A (3) B (2) C (4) D (1)
- (iv) A (4) B (1) C (2) D (3)

Solution:

Option (ii) is the answer.

37. Match the coordination compounds given in Column I with the central metal atoms given in Column II and assign the correct code :

Column I (Coordination Compound)	Column II (Central metal atom)
A. Chlorophyll	1. rhodium
B. Blood pigment	2. cobalt
C. Wilkinson catalyst	3. calcium
D. Vitamin B12	4. iron
	5. magnesium

Code :

- (i) A (5) B (4) C (1) D (2)
- (ii) A (3) B (4) C (5) D (1)
- (iii) A (4) B (3) C (2) D (1)
- (iv) A (3) B (4) C (1) D (2)

Solution:

Option (i) is the answer.

38. Match the complex ions given in Column I with the hybridisation and number of unpaired electrons given in Column II and assign the correct code :

Column I (Complex ion)	Column II (Hybridisation, number of unpaired electrons)
A. $[\text{Cr}(\text{H}_2\text{O})_6]^{3+}$	1. dsp^2 , 1
B. $[\text{Co}(\text{CN})_4]^{2-}$	2. sp^3d^2 , 5
C. $[\text{Ni}(\text{NH}_3)_6]^{2+}$	3. d^2sp^3 , 3
D. $[\text{MnF}_6]^{4-}$	4. sp^3 , 4
	5. sp^3d^2 , 2

Code :

- (i) A (3) B (1) C (5) D (2)
- (ii) A (4) B (3) C (2) D (1)
- (iii) A (3) B (2) C (4) D (1)
- (iv) A (4) B (1) C (2) D (3)

Solution:

Option (ii) is the answer.

39. Match the complex species given in Column I with the possible isomerism given in Column II and assign the correct code :

Column I (Complex species)	Column II (Isomerism)
----------------------------	-----------------------

A. $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$ B. <i>cis</i> - $[\text{Co}(\text{en})_2\text{Cl}_2]^+$ C. $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)]\text{Cl}_2$ D. $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$	1. Optical 2. Ionisation 3. Coordination 4. Geometrical 5. Linkage
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------

Code :

- (i) A (1) B (2) C (4) D (5)
- (ii) A (4) B (3) C (2) D (1)
- (iii) A (4) B (1) C (5) D (3)
- (iv) A (4) B (1) C (2) D (3)

Solution:

Option (iv) is the answer

40. Match the compounds given in Column I with the oxidation state of cobalt present in it (given in Column II) and assign the correct code.

Column I (Compound)	Column II (Oxidation state of Co)
A. $[\text{Co}(\text{NCS})(\text{NH}_3)_5](\text{SO}_3)$	1. +4
B. $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{SO}_4$	2. 0
C. $\text{Na}_4[\text{Co}(\text{S}_2\text{O}_3)_3]$	3. +1
D. $[\text{Co}_2(\text{CO})_8]$	4. +2
	5. +3

Code :

- (i) A (1) B (2) C (4) D (5)
- (ii) A (4) B (3) C (2) D (1)
- (iii) A (5) B (1) C (4) D (2)
- (iv) A (4) B (1) C (2) D (3)

Solution:

Option (i) is the answer.

V. Assertion and Reason Type

Note: In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- (i) Assertion and reason both are true, the reason is the correct explanation of assertion.
- (ii) Assertion and reason both are true but the reason is not the correct explanation of assertion.
- (iii) An assertion is true, the reason is false.
- (iv) The assertion is false, the reason is true.

41. Assertion: Toxic metal ions are removed by the chelating ligands.

Reason: Chelate complexes tend to be more stable.

Solution:

Option (i) is correct.

42. Assertion : $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_2$ and $[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_2$ are reducing in nature.

Reason: Unpaired electrons are present in their d-orbitals.

Solution:

Option (ii) is correct.

43. Assertion: Linkage isomerism arises in coordination compounds containing ambidentate ligand.

Reason: Ambidentate ligand has two different donor atoms.

Solution:

Option (i) is correct

44. Assertion: Complexes of MX₆ and MX₅L type (X and L are unidentate) do not show geometrical isomerism.

Reason: Geometrical isomerism is not shown by complexes of coordination number 6.

Solution:

Option (ii) is correct.

45. Assertion : ([Fe(CN)₆]³⁻ ion shows magnetic moment corresponding to two unpaired electrons.

Reason: Because it has d₂sp₃ type hybridisation.

Solution:

Option (iv) is correct.

NAGEEN GROUP
tamso ma jyotirgamaya

CLICK TO DOWNLOAD NCERT EXEMPLAR SOLUTIONS

CLASS 12: CHEMISTRY (ALL CHAPTERS)





JOIN OUR WHATSAPP GROUPS

FOR FREE EDUCATIONAL
RESOURCES





JOIN SCHOOL OF EDUCATORS WHATSAPP GROUPS FOR FREE EDUCATIONAL RESOURCES

We are thrilled to introduce the School of Educators WhatsApp Group, a platform designed exclusively for educators to enhance your teaching & Learning experience and learning outcomes. Here are some of the key benefits you can expect from joining our group:

BENEFITS OF SOE WHATSAPP GROUPS

- **Abundance of Content:** Members gain access to an extensive repository of educational materials tailored to their class level. This includes various formats such as PDFs, Word files, PowerPoint presentations, lesson plans, worksheets, practical tips, viva questions, reference books, smart content, curriculum details, syllabus, marking schemes, exam patterns, and blueprints. This rich assortment of resources enhances teaching and learning experiences.
- **Immediate Doubt Resolution:** The group facilitates quick clarification of doubts. Members can seek assistance by sending messages, and experts promptly respond to queries. This real-time interaction fosters a supportive learning environment where educators and students can exchange knowledge and address concerns effectively.
- **Access to Previous Years' Question Papers and Topper Answers:** The group provides access to previous years' question papers (PYQ) and exemplary answer scripts of toppers. This resource is invaluable for exam preparation, allowing individuals to familiarize themselves with the exam format, gain insights into scoring techniques, and enhance their performance in assessments.

- **Free and Unlimited Resources:** Members enjoy the benefit of accessing an array of educational resources without any cost restrictions. Whether its study materials, teaching aids, or assessment tools, the group offers an abundance of resources tailored to individual needs. This accessibility ensures that educators and students have ample support in their academic endeavors without financial constraints.
- **Instant Access to Educational Content:** SOE WhatsApp groups are a platform where teachers can access a wide range of educational content instantly. This includes study materials, notes, sample papers, reference materials, and relevant links shared by group members and moderators.
- **Timely Updates and Reminders:** SOE WhatsApp groups serve as a source of timely updates and reminders about important dates, exam schedules, syllabus changes, and academic events. Teachers can stay informed and well-prepared for upcoming assessments and activities.
- **Interactive Learning Environment:** Teachers can engage in discussions, ask questions, and seek clarifications within the group, creating an interactive learning environment. This fosters collaboration, peer learning, and knowledge sharing among group members, enhancing understanding and retention of concepts.
- **Access to Expert Guidance:** SOE WhatsApp groups are moderated by subject matter experts, teachers, or experienced educators who can benefit from their guidance, expertise, and insights on various academic topics, exam strategies, and study techniques.

Join the School of Educators WhatsApp Group today and unlock a world of resources, support, and collaboration to take your teaching to new heights. To join, simply click on the group links provided below or send a message to +91-95208-77777 expressing your interest.

**Together, let's empower ourselves & Our Students and
inspire the next generation of learners.**

**Best Regards,
Team
School of Educators**

Join School of Educators WhatsApp Groups

You will get Pre- Board Papers PDF, Word file, PPT, Lesson Plan, Worksheet, practical tips and Viva questions, reference books, smart content, curriculum, syllabus, marking scheme, toppers answer scripts, revised exam pattern, revised syllabus, Blue Print etc. here . Join Your Subject / Class WhatsApp Group.

Kindergarten to Class XII (For Teachers Only)



[Click Here to Join](#)

Class 1



[Click Here to Join](#)

Class 2



[Click Here to Join](#)

Class 3



[Click Here to Join](#)

Class 4



[Click Here to Join](#)

Class 5



[Click Here to Join](#)

Class 6



[Click Here to Join](#)

Class 7



[Click Here to Join](#)

Class 8



[Click Here to Join](#)

Class 9



[Click Here to Join](#)

Class 10



[Click Here to Join](#)

Class 11 (Science)



[Click Here to Join](#)

Class 11 (Humanities)



[Click Here to Join](#)

Class 11 (Commerce)



[Click Here to Join](#)

Class 12 (Science)



[Click Here to Join](#)

Class 12 (Humanities)



[Click Here to Join](#)

Class 12 (Commerce)



[Click Here to Join](#)

Kindergarten

Subject Wise Secondary and Senior Secondary Groups (IX & X For Teachers Only)

Secondary Groups (IX & X)



[Click Here to Join](#)

SST



[Click Here to Join](#)

Mathematics



[Click Here to Join](#)

Science



[Click Here to Join](#)

English



[Click Here to Join](#)

Hindi-A



[Click Here to Join](#)

IT Code-402



[Click Here to Join](#)

Hindi-B



[Click Here to Join](#)

Artificial Intelligence

Senior Secondary Groups (XI & XII For Teachers Only)



[Click Here to Join](#)

Physics



[Click Here to Join](#)

Chemistry



[Click Here to Join](#)

English



[Click Here to Join](#)

Mathematics



[Click Here to Join](#)

Biology



[Click Here to Join](#)

Accountancy



[Click Here to Join](#)

Economics



[Click Here to Join](#)

BST



[Click Here to Join](#)

History

[Click Here to Join](#)Geography[Click Here to Join](#)Sociology[Click Here to Join](#)Hindi Elective[Click Here to Join](#)Hindi Core[Click Here to Join](#)Home Science[Click Here to Join](#)Sanskrit[Click Here to Join](#)Psychology[Click Here to Join](#)Political Science[Click Here to Join](#)Painting[Click Here to Join](#)Vocal Music[Click Here to Join](#)Comp. Science[Click Here to Join](#)IP[Click Here to Join](#)Physical Education[Click Here to Join](#)APP. Mathematics[Click Here to Join](#)Legal Studies[Click Here to Join](#)Entrepreneurship[Click Here to Join](#)French[Click Here to Join](#)IT[Click Here to Join](#)Artificial Intelligence

Other Important Groups (For Teachers & Principal's)

[Click Here to Join](#)Principal's Group[Click Here to Join](#)Teachers Jobs[Click Here to Join](#)IIT/NEET

Subject Wise Secondary and Senior Secondary Groups (IX & X For Students Only)

Secondary Groups (IX & X)



[Click Here to Join](#)

SST



[Click Here to Join](#)

Mathematics



[Click Here to Join](#)

Science



[Click Here to Join](#)

English



[Click Here to Join](#)

Hindi



[Click Here to Join](#)

IT Code



[Click Here to Join](#)

Artificial Intelligence

Senior Secondary Groups (XI & XII For Students Only)



[Click Here to Join](#)

Physics



[Click Here to Join](#)

Chemistry



[Click Here to Join](#)

English



[Click Here to Join](#)

Mathematics



[Click Here to Join](#)

Biology



[Click Here to Join](#)

Accountancy



[Click Here to Join](#)

Economics



[Click Here to Join](#)

BST



[Click Here to Join](#)

History



[Click Here to Join](#)

Geography



[Click Here to Join](#)

Sociology



[Click Here to Join](#)

Hindi Elective



[Click Here to Join](#)

Hindi Core



[Click Here to Join](#)

Home Science



[Click Here to Join](#)

Sanskrit



[Click Here to Join](#)

Psychology



[Click Here to Join](#)

Political Science



[Click Here to Join](#)

Painting



[Click Here to Join](#)

Music



[Click Here to Join](#)

Comp. Science



[Click Here to Join](#)

IP



[Click Here to Join](#)

Physical Education



[Click Here to Join](#)

APP. Mathematics



[Click Here to Join](#)

Legal Studies



[Click Here to Join](#)

Entrepreneurship



[Click Here to Join](#)

French



[Click Here to Join](#)

IT



[Click Here to Join](#)

AI



[Click Here to Join](#)

IIT/NEET



[Click Here to Join](#)

CUET

Groups Rules & Regulations:

To maximize the benefits of these WhatsApp groups, follow these guidelines:

1. Share your valuable resources with the group.
2. Help your fellow educators by answering their queries.
3. Watch and engage with shared videos in the group.
4. Distribute WhatsApp group resources among your students.
5. Encourage your colleagues to join these groups.

Additional notes:

1. Avoid posting messages between 9 PM and 7 AM.
2. After sharing resources with students, consider deleting outdated data if necessary.
3. It's a NO Nuisance groups, single nuisance and you will be removed.
 - No introductions.
 - No greetings or wish messages.
 - No personal chats or messages.
 - No spam. Or voice calls
 - Share and seek learning resources only.

Please only share and request learning resources. For assistance, contact the helpline via WhatsApp: +91-95208-77777.

Join Premium WhatsApp Groups Ultimate Educational Resources!!

Join our premium groups and just Rs. 1000 and gain access to all our exclusive materials for the entire academic year. Whether you're a student in Class IX, X, XI, or XII, or a teacher for these grades, Artham Resources provides the ultimate tools to enhance learning. Pay now to delve into a world of premium educational content!

[**Click here for more details**](#)



[Click Here to Join](#)

Class 9



[Click Here to Join](#)

Class 10



[Click Here to Join](#)

Class 11



[Click Here to Join](#)

Class 12

► Don't Miss Out! Elevate your academic journey with top-notch study materials and secure your path to top scores! Revolutionize your study routine and reach your academic goals with our comprehensive resources. Join now and set yourself up for success! 📚⭐

Best Wishes,

Team

School of Educators & Artham Resources

SKILL MODULES BEING OFFERED IN MIDDLE SCHOOL



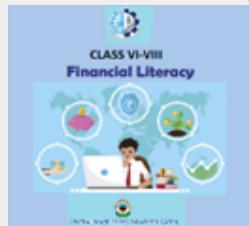
Artificial Intelligence



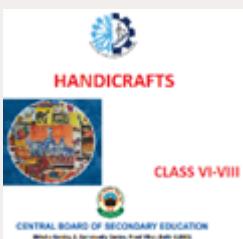
Beauty & Wellness



Design Thinking & Innovation



Financial Literacy



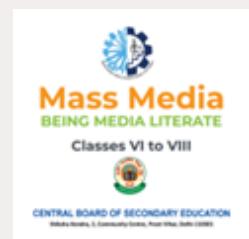
Handicrafts



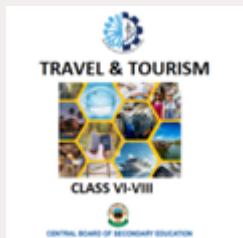
Information Technology



Marketing/Commercial Application



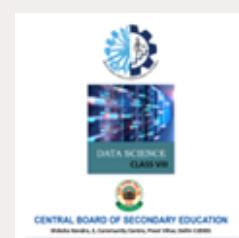
Mass Media - Being Media Literate



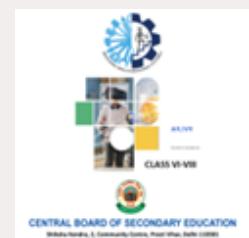
Travel & Tourism



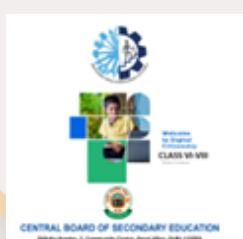
Coding



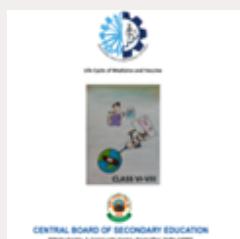
Data Science (Class VIII only)



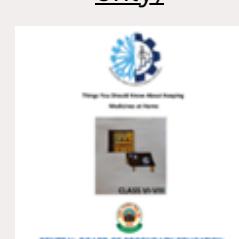
Augmented Reality/
Virtual Reality



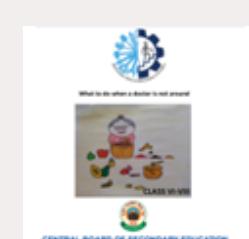
Digital Citizenship



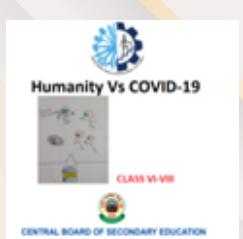
Life Cycle of Medicine &
Vaccine



Things you should know
about keeping Medicines
at home



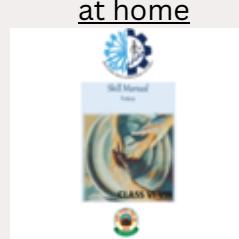
What to do when Doctor
is not around



Humanity & Covid-19



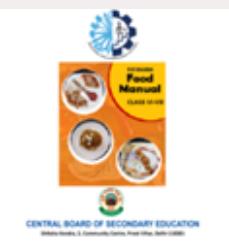
Blue Pottery



Pottery



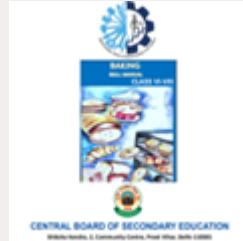
Block Printing



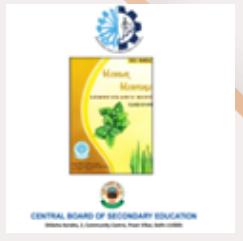
Food



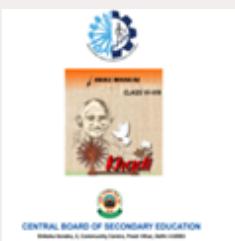
Food Preservation



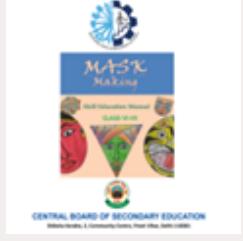
Baking



Herbal Heritage



Khadi



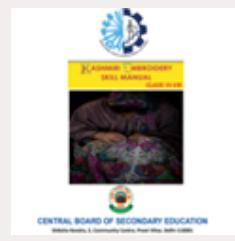
Mask Making



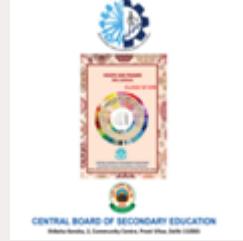
Mass Media



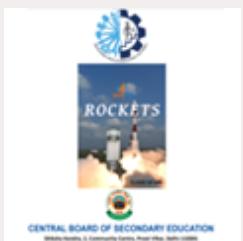
Making of a Graphic Novel



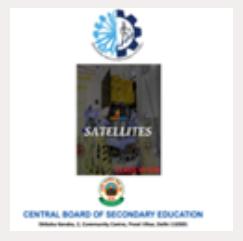
Kashmiri Embroidery



Embroidery



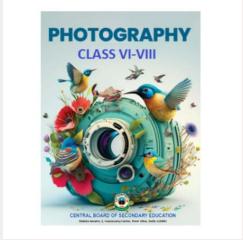
Rockets



Satellites

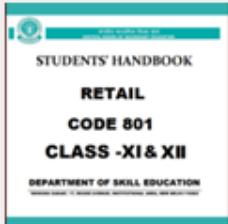


Application of Satellites

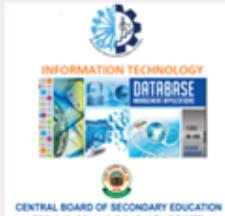


Photography

SKILL SUBJECTS AT SR. SEC. LEVEL (CLASSES XI – XII)



Retail



Information Technology



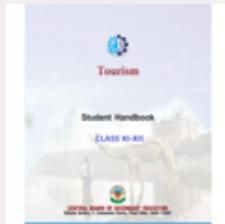
Web Application



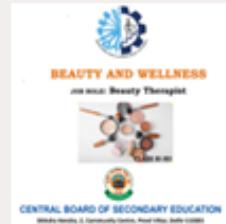
Automotive



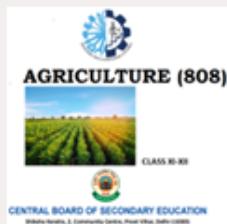
Financial Markets Management



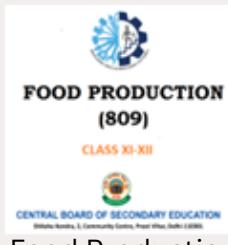
Tourism



Beauty & Wellness



Agriculture



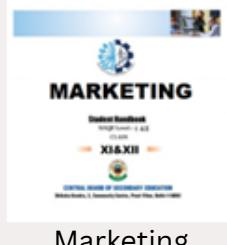
Food Production



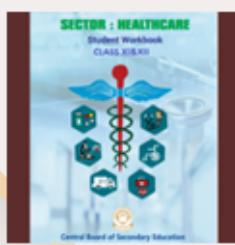
Front Office Operations



Banking



Marketing



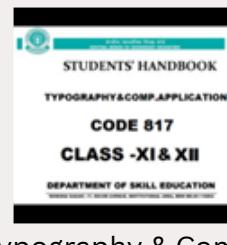
Health Care



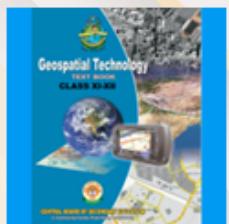
Insurance



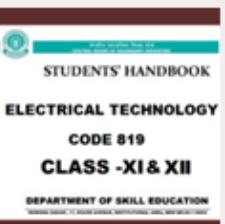
Horticulture



Typography & Comp.
Application



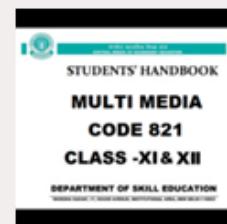
Geospatial Technology



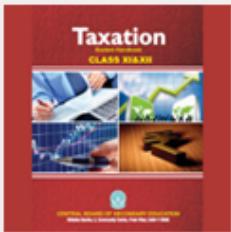
Electrical Technology



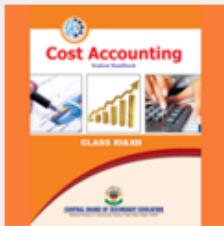
Electronic Technology



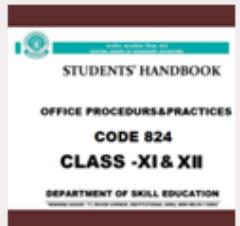
Multi-Media



Taxation



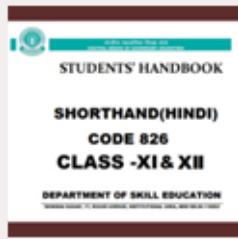
Cost Accounting



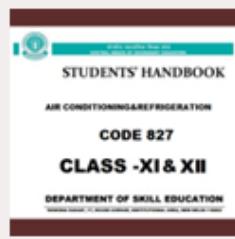
Office Procedures & Practices



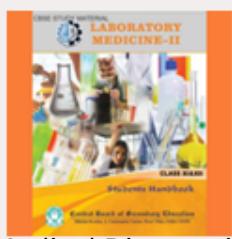
Shorthand (English)



Shorthand (Hindi)



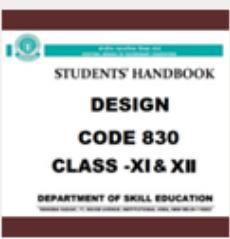
Air-Conditioning & Refrigeration



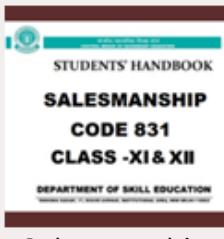
Medical Diagnostics



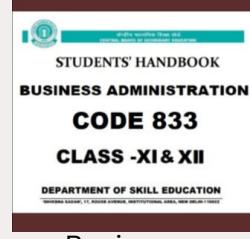
Textile Design



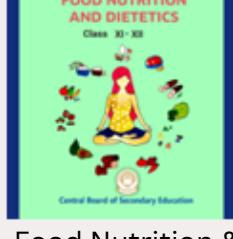
Design



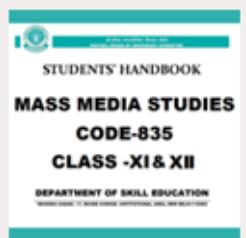
Salesmanship



Business Administration



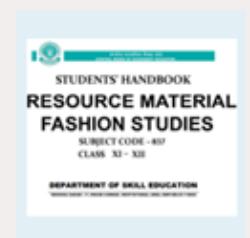
Food Nutrition & Dietetics



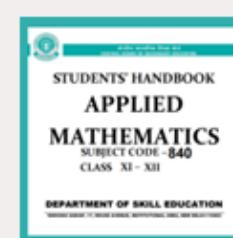
Mass Media Studies



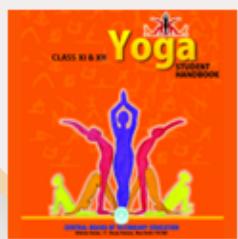
Library & Information Science



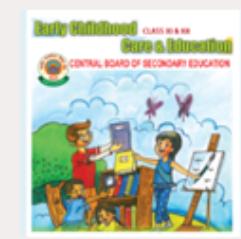
Fashion Studies



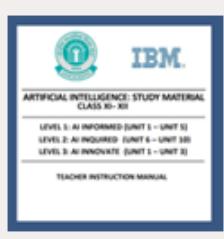
Applied Mathematics



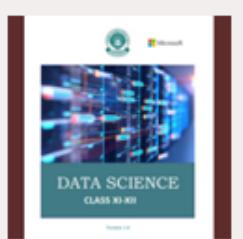
Yoga



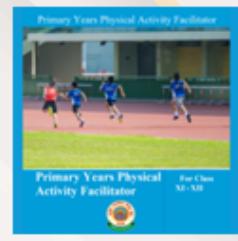
Early Childhood Care & Education



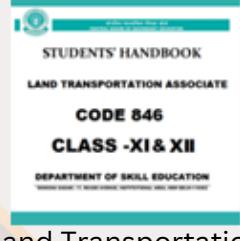
Artificial Intelligence



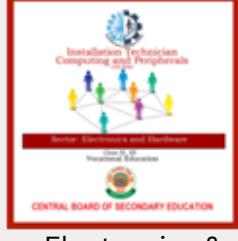
Data Science



Physical Activity Trainer (new)



Land Transportation Associate (NEW)



Electronics & Hardware (NEW)



Design Thinking & Innovation (NEW)